LISTING OF CLAIMS:

1. (previously presented) A human power amplifier assist device, including:

a lift pulley with a cable wound thereon;

an actuator arranged to turn the lift pulley so as to wind and unwind the cable;

an end-effector connected to the cable and connectable to a load, the end-effector including a sensor for detecting an operator-applied force on the end effector;

a controller for controlling operation of the actuator, the controller being responsive to a first signal from the sensor representing operator-applied force and a cable slack signal representing a slack condition of the cable; and

the controller being programmed to cause the actuator to wind and unwind the cable in response to the first signal, and to override the control as a function of the first signal in response to the cable slack signal.

2. (previously presented) The device of claim 1, further including:

a cable slack sensor for generating the cable slack signal; and

a cable end sensor for generating a cable end signal;

wherein the controller also overrides the control in response to the cable end signal.

3. (previously presented) The device of claim 1, further including a cable slack sensor for generating the cable slack signal, wherein said cable slack sensor includes:

a guide pulley, located between the lift pulley and the end-effector, and over which the cable passes;

a biasing means for biasing the guide pulley against a cable normal force caused by a cable passing thereover, said biasing means operating to absorb at least a portion of any slack in the cable; and

a cable slack switch, for detecting when the pulley has moved away from a normal operating position in response to the biasing means.

4. (original) The device of claim 2, wherein the lift pulley includes a continuous groove about at least a portion of the periphery thereof and where said cable end sensor includes:

a guide pulley, located between the lift pulley and the end-effector, and over which the cable passes;

a lift pulley groove follower, said follower moving in a direction parallel to the lift pulley axis in response to rotation of the lift pulley; and

a cable end switch, for detecting when the pulley has unwound a predefined length of cable therefrom.

5. (original) The device of claim 3, wherein the lift pulley includes a continuous groove about at least a portion of the periphery thereof and where said cable end sensor includes:

a guide pulley, located between the lift pulley and the end-effector, and over which the cable passes;

a lift pulley groove follower, said follower moving in a direction parallel to the lift pulley axis in response to rotation of the lift pulley; and

a cable end switch, for detecting when the pulley has unwound a predefined length of cable therefrom.

6. (canceled)

7. (previously presented) The device of claim 2, wherein said cable slack sensor includes:

a guide pulley, located between the lift pulley and the end-effector, and over which the cable passes;

a biasing means for biasing the guide pulley against a cable normal force caused by a cable passing thereover, said biasing means operating to absorb at least a portion of any slack in the cable; and

a cable slack switch, for detecting when the pulley has moved away from a normal operating position in response to the biasing means.

8. (canceled)

9. (previously presented) The device of claim 2, wherein the lift pulley includes a continuous groove about at least a portion of the periphery thereof and where said cable end sensor includes:

a guide pulley, located between the lift pulley and the end-effector, and over which the cable passes;

a lift pulley groove follower, said follower moving in a direction parallel to the lift pulley axis in response to rotation of the lift pulley so as to move the guide pulley in association with the cable being unwound from the pulley; and

a cable end switch, for detecting when the pulley has unwound a predefined length of cable therefrom.

10. (original) The device of claim 1, further including:

a handle on said end-effector, wherein said handle moves in response to force exerted thereon by a user, and where movement of the handle causes the generation of the first signal.

11. (currently amended) A device for monitoring the condition of a line wound on a lift pulley, and generating at least one signal indicative of the condition, including:

a slack sensor, operatively associated with the lift pulley for sensing slack in the line; and

an end sensor, also operatively associated with the lift pulley for sensing a limit of the line;

wherein the at least one signal representing the condition of the line includes a slack signal generated by the slack sensor and an end signal generated by the end sensor.

12. (previously presented) The device of claim 11, wherein said slack sensor includes:

a guide pulley, located between the lift pulley and an end-effector, and over which the line passes;

a biasing means for biasing the guide pulley against a normal force caused by the line passing thereover, said biasing means operating to absorb at least a portion of any slack in the line; and

a slack switch, for detecting when the pulley has moved away from a normal operating position in response to the biasing means.

13. (previously presented) The device of claim 11, wherein the lift pulley includes a continuous groove about at least a portion of the periphery thereof and where said end sensor includes:

a guide pulley, located between the lift pulley and the end-effector, and over which the line passes;

a lift pulley groove follower, said follower moving in a direction parallel to the lift pulley axis in response to rotation of the lift pulley; and

an end switch, operatively contacting the groove follower, for detecting when the pulley has unwound a predefined length of line therefrom.

14. (previously presented) A method for monitoring the condition of a line wound on a lift pulley, including:

monitoring the slack condition of the line with a slack sensor; and

monitoring the length of line, with an end sensor, to determine when a predetermined maximum length of line has been unwound.

15. (previously presented) The method of claim 14, further including generating at least one signal representing the condition of the line, wherein the at least one signal includes a slack signal generated by the slack sensor and an end signal generated by the end sensor.

16. (previously presented) The method of claim 14, further comprising:

biasing a guide pulley, positioned along a path of the line, against a normal force of the line caused when the line is taught, said biasing being of a sufficient magnitude so as to absorb at least a portion of the slack when the line is not taught; and

detecting, using a slack switch, when the guide pulley has been moved from a normal operating position.

17. (previously presented) The method of claim 14, further comprising:

tracking the length of line unwound from the guide pulley using a groove follower displaced as a function of the rotation of the lift pulley; and

detecting, using an end switch, when the groove follower has reached a predetermined position indicative of the maximum length of line to be unwound.